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It has been estimated that the amount of wood annually consumed in the United States at the present time is twenty-three billion cubic feet, while the growth of the forest is only seven billion feet. In other words, Americans all over the country are using more than three times as much wood as the forests are producing. The figures are based upon a large number of state and local reports collected by the government and upon actual measurements. The state forester of Connecticut, in a recent report, has given figures on growth and use for New Haven County, which give more details than are generally to be obtained, and illustrate how the forest is being reduced by over-cutting. In this county a very careful study was made on each township of the amount of forest, the rate of growth, and the amount of timber used. For the year 1907 the timber used was 120,000 cords, in the form of cordwood, lumber, ties, poles and piles. The annual growth on all types of forest land, including the trees standing on abandoned fields, for the year, reached a total of 70,000 cords. Thus the amount cut yearly exceeds the growth by 50,000 cords. The amount of standing timber considered as merchantable and available for cutting within the next few years was found to be 1,200,000 cords. Each year the annual growth increases the supply on hand by 70,000 cords, while the use decreases it by 120,000. The net reduction is therefore 50,000 cords a year. If the cut and the growth remain at the present figures, the supply of merchantable timber will be exhausted in about twenty years. At the end of that time there will be a large amount of forest standing in the county, but it will be in tracts under forty years of age, containing wood below the most profitable size for cutting. Cordwood could still be cut, but supplies of the most profitable products, like ties and lumber, would be practically exhausted.

UNIVERSITY AND EDUCATIONAL NEWS

MRS. MORRIS K. JESUP has given Yale University \$100,000 to establish the Morris K. Jesup chair of agriculture in the For-

estry School. The university has also received \$50,000 for the School of Fine Arts and \$50,000 for a memorial gateway.

DR. W. G. FROST, president of Berea College, announces that an industrial school for negroes will be established near Shelbyville, Ky., and the erection of buildings will be begun in a short time. A railroad station and a post office for the school will be established, called Lincoln, Ky. The endowment, largely given by Mr. Andrew Carnegie, amounts to \$350,000.

THE University of Pennsylvania has asked the city of Philadelphia to transfer to it sixty-one acres of land adjoining the grounds of the institution in return for fifty free scholarships. The land wanted extends east to the Schuylkill River.

THE Goldsmith Company has given £50,000 to the Imperial College of Science and Technology, London, for a building extending the engineering department.

THE Bristol Town Council has decided to contribute in the proportion of one penny in the pound on the rate, or about £7,000 per annum, towards the support of the proposed university for Bristol and the west of England, for which more than £200,000 has been subscribed, mainly by members of the Wills family.

DR. EDWARD L. EARP has resigned his position as professor of sociology at Syracuse University to accept the chair of Christian sociology at Drew Theological Seminary, Madison, N. J.

MR. T. H. LABY has been appointed to the chair of physics in Victoria College, Wellington, New Zealand.

DR. M. CUTTA, associate professor in the Technological School at Munich, has been called to a chair of applied mathematics in the University of Jena.

DISCUSSION AND CORRESPONDENCE

SOME NEW DATA ON THE PROFESSOR'S FINANCIAL POSITION

A TEACHER on entering the profession generally tacitly assumes that after a certain

length of time of greater or lesser duration, and upon evidence of ability and progress along required lines, that promotion and salary will come of themselves.

That the expectation is small and that the realization is still smaller is a fact which soon impresses itself upon all in the teaching profession.

From personal observation, I believe that many are enticed into the career of teaching without due regard as to the discouraging pecuniary future, and I wish to suggest that all those desiring to teach be carefully made to see what the future has in store for them.

A teacher's salary is notably smaller than that which men of the same or even lesser ability obtain in other occupations; but I believe that teachers, as a class, have considered this but of small consequence and are not, as a class, envious of the far greater incomes of most of those with whom they meet in a social way.

They come under the class of salaried men who take no risks and hence do not share in the excess profits. A distinguished sociologist on my enquiry as to the position of the professor in the sociological order answered "You are all parasites." To a great measure this is correct, we are parasites, happily useful ones, but still parasites.

We are resigned to our fate; but lately some facts have come to my notice that have aroused my sense of justice and made me view with much less equanimity the low financial position of the teacher.

I have before me an authoritative manuscript by Colonel H. O. S. Heistand, of the Adjutant General's Department, U. S. Army, entitled "The United States Army as a Career."

The following extract is the portion which excites these feelings and also others which I believe most of those that read will have in common with me:

THE ARMY AS A CAREER

Let us see what the enlisted man is able to do in the way of accumulating a competence to provide for the declining years of his life.

If he has been an improvident spendthrift

throughout his entire career and has not saved a penny, he will have as long as he lives his retired pay, which at the very least is equal in value to a paid-up insurance policy of from \$10,000 to \$20,000, non-forfeitable and guaranteed by the government. But a careful man would save half his cash pay when all necessities are provided, and let us see what would be the result if he did so.

If he has remained a private soldier—the very lowest position in the army—during his entire twenty-five or thirty years' service, without ever having received any "extra-duty" pay or other special increase, and has saved and deposited with the government one half of his pay, and the amounts due him on discharge each time he reenlists, he finally quits the active list with the snug sum of more than \$9,000, the income of which at four per cent. would yield over \$30 per month; this added to his retired pay gives him a monthly income of nearly \$65 per month for the rest of his life, and he is free to go wherever and occupy himself as he pleases.

Please notice that in this case and in the following cases the men own their capital and may withdraw it to go into business; and also that they are still comparatively young, that is, between 43 and 50 years of age, assuming that they enlisted between the ages of 18 and 25 years.

But for a soldier to remain a private so long is almost impossible; such a condition could result only from excessive indolence or a degree of stupidity that would seem to be a bar to original or subsequent enlistment. A fair supposition and one easy of realization would be that of a soldier who remains a private half of his first enlistment, then becomes a corporal; is made a sergeant upon reenlistment, and remains a sergeant the remainder of his career. Such a soldier, saving as above, would receive on final discharge nearly \$15,000, this amount at four per cent. together with his retired pay would give him a monthly income of over \$100 for the remainder of his life.

If instead of remaining a sergeant he reaches the grade of first sergeant and holds that position during the last nine years of his service, he will have saved about \$16,000, which at four per cent. will yield an amount, which added to his retired pay, gives him over \$120 per month. If the soldier is a private during his first enlistment, a sergeant in his second and third enlistments and then becomes a non-commissioned staff officer, say a commissary sergeant, his savings of one half

his pay, etc., as above, will amount to over \$18,000 and with his retired pay will provide him an income of about \$130 per month.

But even this by no means exhausts the possibilities of a career in the ranks of the army. For, if, say during the first three enlistments the soldier diligently applies himself to study in the army schools which are provided for him and advances sufficiently to become a master electrician, or if he have a musical turn and become a chief musician or sergeant in the band, his savings at the date of retirement will be just short of \$24,000 and his total monthly income will be almost exactly \$170.

None of the above cases are exceptions—all are within easy realization of the enlisted man who enters the army for a life business with a determination to succeed and prosper. Furthermore, at the date of retirement he will be in the prime of life and able to add to his capital and income for many years. Observation leads to the belief that very few laboring men or mechanics achieve a measure of success equal even to that possible for the soldier who remains a private during his entire career, and the easy possibility of the higher grades exceeds the average of success of the learned professions.

Men in business and professional life may contemplate a greater measure of success than this, but in doing so the great majority of them indulge only in pleasant dreams which are never realized. They suffer the dangers of fire, bank failures, industrial depressions and all the other enemies of success against which the professional soldier has the integrity and permanency of the government to protect him.

If the soldier does not desire to remain in the army for the full period of thirty years, he may quit at the expiration of any enlistment period, or he may purchase his discharge at any time after one year's service if he be not undergoing punishment or is not on duty at or under orders for duty at a foreign station; and if he chooses to save his money he will have between \$300 and \$400 at the end of a single enlistment. Surely he will not have wasted his time. After twenty years' service he may enter the Soldier's Home which is maintained by the federal government in the District of Columbia, and there spend his days in comfort.

Inquiry elicited the facts, which were to be expected, that a very similar outlook encouraged the *enlisted* man in the navy.

It seems to us that these extracts speak for

themselves. The only requirements of admission of a man to all of these possibilities is simply that he be of sound body, of good moral character and be able to read and write English (?).

In comparison with what is required of the college professor the teaching profession has not a tenth of similar advantages to offer.

We can not retire without losing all claim to a pension, if we do so before a certain large number of years of service have passed.

The average teacher retires an old man after his energies have been used up in the furtherance of the public good that repays him so meagerly.

The pension, when it is obtained, is not nearly so large, in most cases, as that received by the soldier who, besides, *owns* a goodly part of the contributing capital.

All this is about the *enlisted* man. The officers have, of course, a more remunerative future before them.

The young cadet on graduation receives a minimum salary of \$1,700 as second lieutenant. If he becomes first lieutenant or captain, which may occur very shortly, or at least the salaries of which grades he may receive shortly, his salary rises to \$2,000 and \$2,400 respectively. The salary of a major is \$3,000. All salaries are subject to a ten per cent. increase every five years for twenty years if promotion should by any accident not take place long before that period is ended.

Besides these amounts the officers are allowed quarters and light for themselves and families and the privilege of obtaining all supplies at wholesale rates through the commissary department.

When in course of duty the officer must reside outside of the army post, the government allows him an extra amount called *commutation* of quarters, of respectively \$24 per month for second lieutenants, \$36 per month for first lieutenants, \$48 to captains, the amounts increasing by \$12 a month for each grade.

Adding this to the nominal salary and a percentage saving of one fifth or twenty per cent. in the cost of provisions, we have the totals for a newly graduated cadet or second

lieutenant, about \$2,300, for a first lieutenant about \$2,800, for a captain about \$3,400. These are all low grades in the army.

What teacher receives anything approaching this on graduation from a college or even on receiving a doctor's degree after six more arduous years of hard study?

The salary on graduation of a Massachusetts Institute of Technology man as assistant is \$500, with an increase to \$600 the next year. It may in some institutions reach as high as \$1,000, but that is exceptional.

A common soldier may reasonably look forward to retirement at the age of 45 or 50 years, with a life-long income of \$2,040, and the opportunities to devote himself to a congenial pursuit.

One feels a certain amount of chagrin in meeting casually on a train an enlisted naval petty officer younger than himself who has \$12,000 saved in the bank.

Why must the teaching profession be forever in such an unfortunate financial position in comparison with other callings? Have we not, as a class, enough common interest, enough moral courage to wage a campaign together for what is justly due us, for our labors? That is, a reasonable salary sufficient for our needs, sufficient for our family, sufficient to maintain the responsible and honorable position we now hold and which would in the event of a just increase become of much more influence in public life.

J. G. COFFIN

FAIR PLAY AND TOLERATION IN SCIENCE

TO THE EDITOR OF SCIENCE: I have read with surprise, if not indignation, Professor Blackwelder's discussion of Lowell's "Mars as the Abode of Life" in your issue of April 23, 1909; and feel that it is only just to enter a protest, in the interest of fair play and that degree of toleration which has always been characteristic of the better men of science. Professor Blackwelder speaks as if some great injury had been done to the public by the appearance of a popular book, written in a narrative style adapted to the lay demand. Of course this is wholly untrue, and mere idle

vaporings. Lowell's popular works are all better than Proctor's and Flammarion's, and both of these latter writers have done valuable service in diffusing the results of scientific research among the multitude. It may sound very plausible to the scientific recluse to say that nothing but mathematical formulæ and tables are of value, but every well-informed man knows better. It is by the popularization of science that new interest is awakened in the public mind and increased opportunities provided for the extension of scientific research.

To take a specific example, it was the reading of a popular work by Huyghens, entitled "Comtheoros," which led Dr. Plume to establish the Plumian professorship of astronomy at Cambridge, which has been held by such distinguished mathematicians as Sir George Darwin, who has greatly extended our knowledge of mathematical astronomy, yet is not so narrow as to deny the value of popular science, but on the contrary has contributed to it by popular articles in magazines and a standard work on the tides.

If we compare the present state of astronomy in the United States with that in other countries, we shall be compelled to admit that American preeminence is due very largely to popular interest, and a general appreciation of results. Without popular diffusion of the results of scientific research, who among our business men and captains of industry could possibly have any interest in scientific work? In this day of specialization even scientific workers find it difficult to understand the labors of others, and the public is at vastly greater disadvantage. I make great use of logarithms, trigonometry and calculus, but I have yet to see the laymen who enthuse over columns of figures or complicated mathematical analysis.

When Proctor was living he was assailed by the self-appointed critics in much the same way as Lowell is now; but they always forget that there are others to be considered besides the mere priesthood of science. It sometimes seems to me that some of the latter are almost as intolerant as those divinely inspired persons who took it upon themselves to conduct